# Unique Identification (UID) and Radio Frequency Identification (RFID) of DoD Tangible Items And Packaging
# - Our Journey to Compliance -

LOCKHEED MARTIN

May 8, 2005

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# DoD Strategic Imperatives - Impact

- Aeronautics
- Electronic Systems
- Information & Technology Services
- Integrated Systems & Solutions
- Space Systems

- *Audit/Compliance*
- *Business Development*
- *Communications*
- *Customer Support/Logistics*
- *Engineering/Planning*
- *Finance & Contracts Management*
- *On-Site DoD Property Management*
- *Information Systems*
- *Human Resources*
- *Legal Counsel*
- *Manufacturing Production*
- *Material Management/Supply Chain*
- *Packaging/Shipping*
- *Procurement*
- *Program Management*
- *Quality Assurance*

***Wide Spread and at Varying Levels!***

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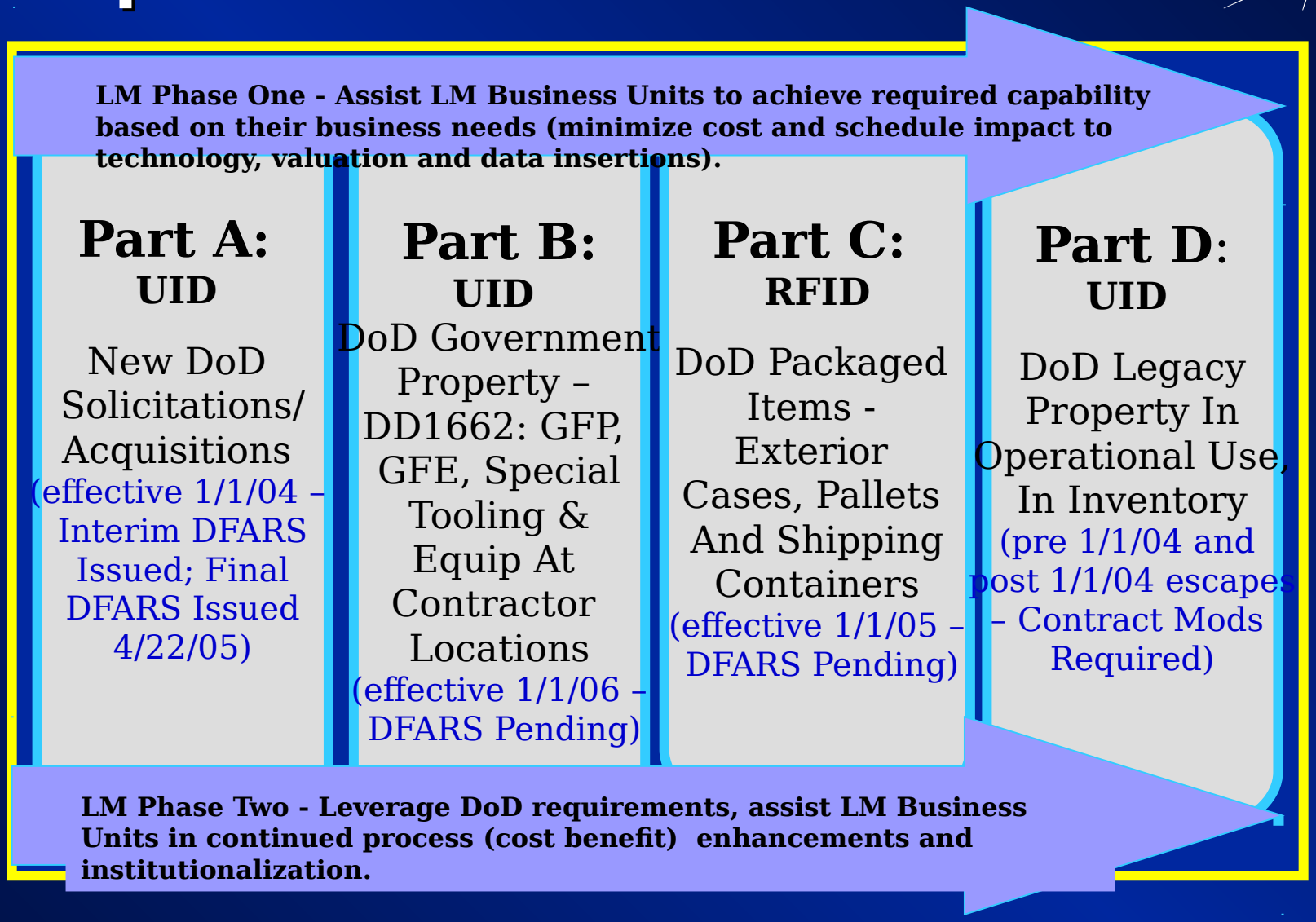
# Components of UID - Overview


LM Phase One - Assist LM Business Units to achieve required capability based on their business needs (minimize cost and schedule impact to technology, valuation and data insertions).
Part A: UID
New DoD Solicitations/ Acquisitions (effective 1/1/04 – Interim DFARS Issued; Final DFARS Issued 4/22/05)
Part B: UID
DoD Government Property – DD1662: GFP, GFE, Special Tooling & Equip At Contractor Locations (effective 1/1/06 – DFARS Pending)
Part C: RFID
DoD Packaged Items - Exterior Cases, Pallets And Shipping Containers (effective 1/1/05 – DFARS Pending)
Part D: UID
DoD Legacy Property In Operational Use, In Inventory (pre 1/1/04 and post 1/1/04 escapes – Contract Mods Required)
LM Phase Two - Leverage DoD requirements, assist LM Business Units in continued process (cost benefit) enhancements and institutionalization.

**UID = Asset's social security number tied to valuation data**

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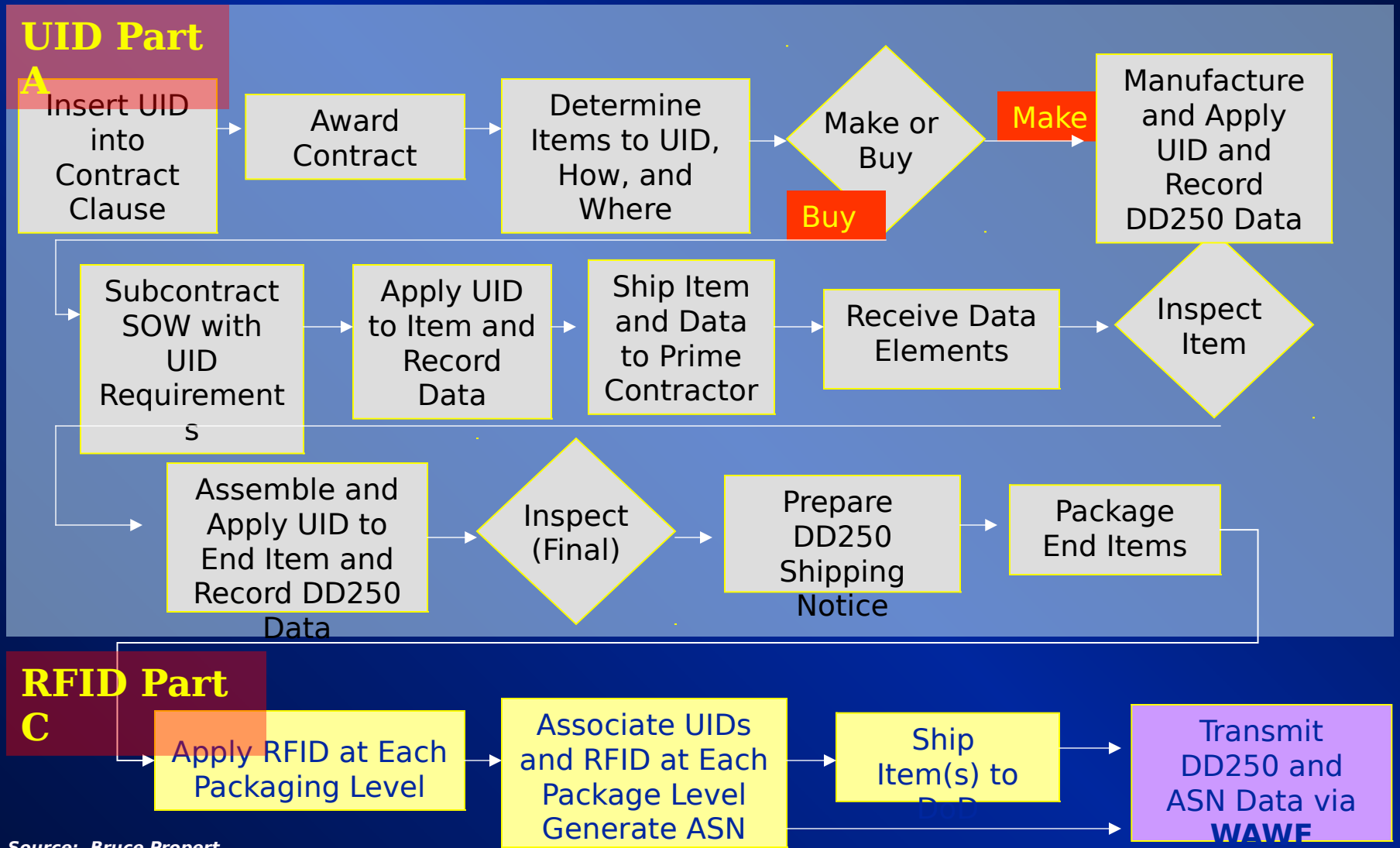
# UID-RFID-WAWF Process Flow


UID Part A
Insert UID into Contract Clause
Award Contract
Determine Items to UID, How, and Where
Make or Buy
Make
Buy
Manufacture and Apply UID and Record DD250 Data
Subcontract SOW with UID Requirements
Apply UID to Item and Record Data
Ship Item and Data to Prime Contractor
Receive Data Elements
Inspect Item
Assemble and Apply UID to End Item and Record DD250 Data
Inspect (Final)
Prepare DD250 Shipping Notice
Package End Items
RFID Part C
Apply RFID at Each Packaging Level
Associate UIDs and RFID at Each Package Level Generate ASN
Ship Item(s) to
Transmit DD250 and ASN Data via WAWF

***Source: Bruce Propert Presentation of 10 June 2004 at RFID2004***

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# Our Journey!

**Corp UID IPT Objective**

- **Assist LM Business Units to achieve required UID and RFID capability based on their business needs (minimize cost and schedule impact to technology, valuation, and data insertions)**
  - **Phase I – Get it done…using Lean toolsets**
  - **Phase II – Optimize and Institutionalize**

**Technical Project Objective**

**Significantly reduce resource and tool development preparation activities at the business level**

**Value Proposition Statement**

**Leverage common toolsets and existing assets to achieve UID compliance**

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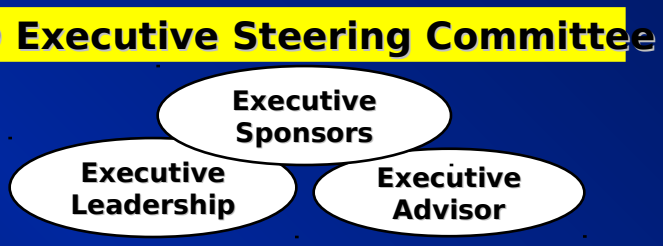
# Our Corporate UID IPT Membership




- IPT Leadership
- Business Area Leads
- Audit
- Communications
- Configuration Management
- Engineering
- Finance – Contracts, Estimating
- Information Services
- International Liaison
- Legal
- Logistics/Customer Support
- LM-IGUIDES
- Manufacturing
- Procurement
- Program Management
- Property Management
- RFID
- Supply Chain
- Training
- Wide Area Workflow (WAWF)
- Customer Liaisons:
  - OSD
  - DCMA
  - DCAA
- Subcontract Liaison

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# Lockheed Martin's Current State

- Disseminated Corp UID/RFID implementation approach
  - Contains guidance on elements of implementation
    - Pursue alternate methods vs. Drawing Changes
- Established UID and RFID integrated process teams at business level…matrixed to the Corp UID IPT
- Engaged in high levels of communication
  - Executive, Customer and Senior Leadership briefings
  - Functional (organizational) briefings
  - Collaborative websites on UID and RFID

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# Examples Of Common Toolsets

- Communication Process Flows
- Contract & Valuation Guidance
- Estimating tools
- Business Unit Implementation Checklist And Standard Value Stream
- Parent – Child Relationship Guidance
- Business Unit Current State And Needs Survey
- Supplier Mitigation Plan And Surveys
- I-GUIDES Solution
- RFID Implementation Toolset
- WAWF, UID and RFID integration guidance

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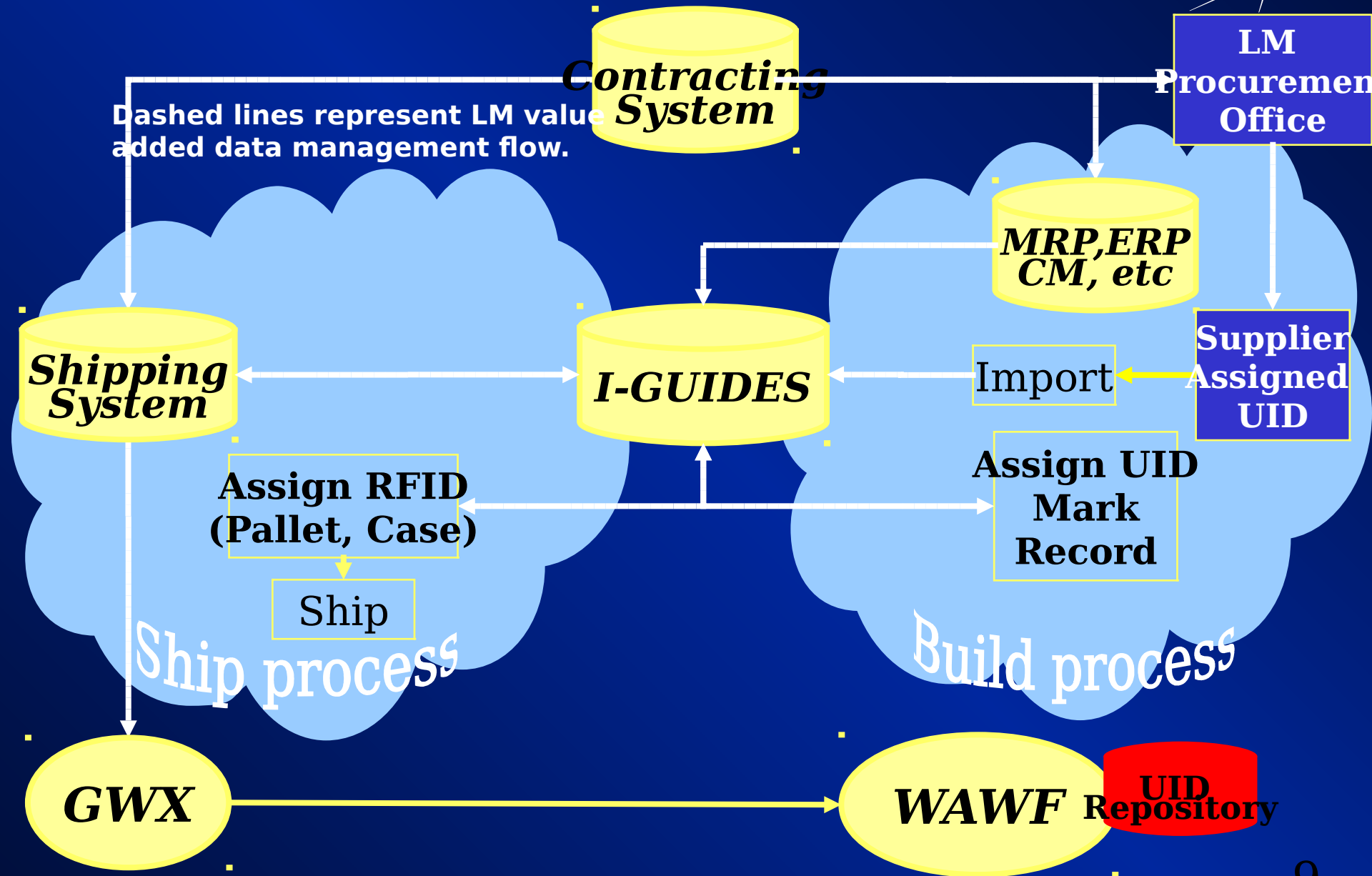
# System Architecture Phase I - Overview

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# Lockheed Martin's Current State

- Heavily engaged in numerous UID/RFID working groups
  - AIA Government Property
  - AIA WAWF
  - AIA RFID
  - AIA Supplier Management Council
  - EPCglobal Membership
  - JACG (Joint Aeronautical Commanders Group)
  - GEIA (Govt Electronics Industries Association)
  - NDIA (National Defense Industries Association)
- Specifics…
  - 2D Data Matrix and RFID technology <u>is not currently</u> prevailing technology at Lockheed Martin
  - Achieved 1st DoD UID and RFID (w/ASN) deliveries

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# In Conclusion!

**Although the new technology provides many opportunities to improve our current part marking, traceability, supply chain and logistics processes….**

**It is important Lockheed Martin remains focused on fulfilling our contractual requirements.**

***We ARE Moving Forward On Our Path To Implementation!***

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# Back-up

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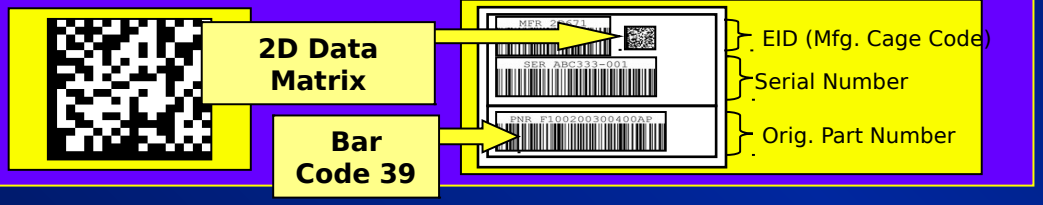
# DoD Strategic Imperatives - Part A

- Effective on DoD solicitations issued on/after Jan 1, 2004
- UID/UII = Asset's social security number tied to valuation data
- Mandates UID on tangible property
  - $5K+ (Government Acquisition Cost) Line item deliverables
  - And additional items specifically listed/identified in the DFARS Clause
- Valuation required for line item deliverables (not embedded items)
  - Data is processed through Wide Area Workflow (WAWF)
    - Interim and alternative solutions
- Invokes flow-down of UID requirements to Suppliers (sub-contractors)
- Requires 2D Data Matrix part marking technology
- Final DFARS Rule released April 22, 2005 and MIL-STD-130M

**Tangible Property – UID**
**DoD DFARS Final Rule**
**MIL-STD-130L, Change 1**
**http://www.acq.osd.mil/dpap/UID/**

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# DoD Strategic Imperatives - Part B

DFARS Pending

- UID of DoD Government Property
  - Effective date is now Jan 1, 2006
    - All GFP on existing contracts must meet UID criteria using virtual or physical UIIs
      - Special criteria will be published by June 2005?
      - GFE Virtual UII listing to UID Registry by March 2006?
      - Final DD1662 to Government by March 2006?
    - UID GFP requirements will be enacted via….DFARS, Contract Mods?
  - Covers equipment, tooling at contractor locations, etc. (DD1662 type)
    - Existing GFP
      - No threshold?
      - 1st Unit Acquisition Cost (Valuation) and virtual UII data
      - Then…UII physically marked on item prior to shipment to another CAGE Code or Government entity
  - Director, Defense Procurement and Acquisition Policy to implement GFP UID policy requirements in regulations and utilization of IPG GUIDES as common toolset

**GFE Items Tracked In Property Management Systems!**

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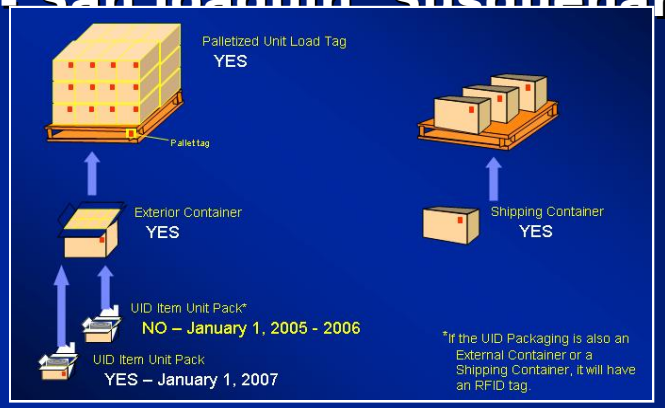
# DoD Strategic Imperatives - Part C

DFARS Pending

- Radio Frequency Identification (RFID) – Effective Jan 2005 (delayed..)
  - Phased implementation approach
    - On DoD solicitations after Oct 1, 2004 with 2005 product deliveries to select locations - San Joaquin, Susquehanna
      - RFID on packages, cases, pallets (passive)
      - RFID on Layer 4 freight containers (active)
    - Beginning 2006 – Additional locations
    - Beginning 2007 – RFID on UID nested packages


Palletized Unit Load Tag
YES
Pallet tag
Exterior Container
YES
Shipping Container
YES
UID Item Unit Pack*
NO – January 1, 2005 - 2006
UID Item Unit Pack
YES – January 1, 2007
*If the UID Packaging is also an External Container or a Shipping Container, it will have an RFID tag.

  - Issues: tag placement, inspection and post shipment concerns; technology changes pending - Gen2 in 2006?
  - Future - RFID tags on key high value items?
  - Final Policy released July 30, 2004
  - Proposed Interim DFARS released April 21, 2005 for industry comments
    - Will ref: MIL-STD-129P Change 3 (Oct 29, 2004 Release)

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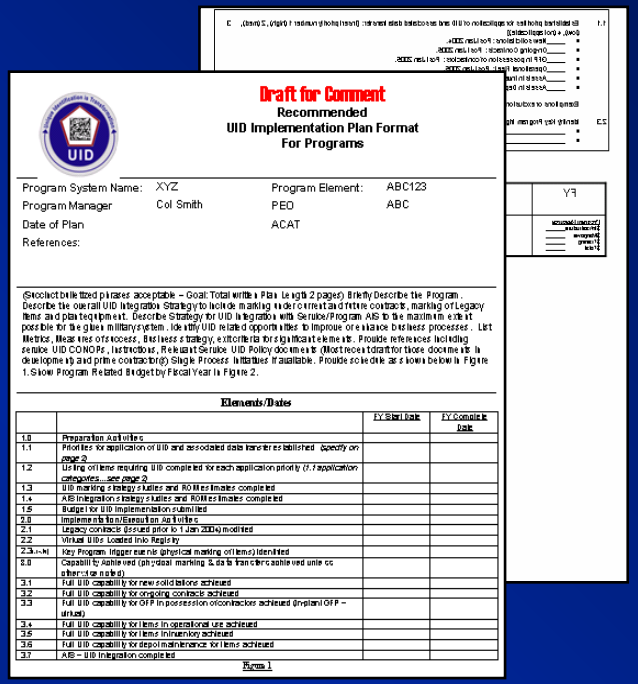
# DoD Strategic Imperatives - Part D

Contract Mods Pending

- UID of existing legacy items in inventory and operational use
  - Goal: Complete UID marking of items and all specified embedded assets by Dec 31, 2010
  - It is recognized that programs will have different levels of completion by 2010 because fielded items are not to be removed from service for the sole purpose of UID marking

- Submittal of DoD UID implementation plans
  - DoD ACAT 1D Programs to OSD by June 2005
  - All other programs to Milestone Decision Authorities by Jan 2006
  - DUSD (Logistics and Materiel Readiness) to publish by May 31, 2005 an initial plan for DoD organic depot maintenance operations
    - Full operating capability at all organic depots are to be in place NLT FY 2007



Draft for Comment
Recommended
UID Implementation Plan Format
For Programs

| | | | |
|---|---|---|---|
| Program System Name: | XYZ | Program Element: | ABC123 |
| Program Manager | Col Smith | PEO | ABC |
| Date of Plan | | ACAT | |
| References: | | | |

(Checklist bulletized phrases acceptable – Goal: Total written Plan Length 2 pages) Briefly Describe the Program. Describe the overall UID Integration Strategy to include marking under current and future contracts, marking of Legacy items and plan deployment. Describe Strategy for UID integration with Service/Program AIS to the maximum extent possible for the given military system. Identify UID related opportunities to improve or enhance business processes. List Metrics, Measures of Success, Business Strategy, exit criteria for significant elements. Provide references including service UID CONOPs, Instructions, Relevant Service UID Policy documents (Most recent draft for those documents in development) and prime contractor(s) Single Process Initiatives if available. Provide schedule as shown below in Figure 1. Show Program Related Budget by Fiscal Year in Figure 2.

**Elements/Dates**

| | | FY Start Date | FY Complete Date |
|---|---|---|---|
| 1.0 | Preparation Activities | | |
| 1.1 | Priorities for application of UID and associated data transfer established *(specify on page 2)* | | |
| 1.2 | Listing of items requiring UID completed for each application priority *(1.1 application categories…see page 2)* | | |
| 1.3 | UID marking strategy studies and ROI/Benefit studies completed | | |
| 1.4 | AIS Integration strategy studies and ROI/Benefit studies completed | | |
| 1.5 | Budget for UID implementation submitted | | |
| 2.0 | Implementation/Execution Activities | | |
| 2.1 | Legacy contracts (issued prior to 1 Jan 2004) modified | | |
| 2.2 | Virtual UIDs Loaded into Registry | | |
| 2.3 (+/-) | Key Program trigger events (physical marking of items) identified | | |
| 3.0 | Capability Achieved (physical marking & data transfer achieved unless otherwise noted) | | |
| 3.1 | Full UID capability for new solicitations achieved | | |
| 3.2 | Full UID capability for ongoing contracts achieved | | |
| 3.3 | Full UID capability for GFP in possession of contractors achieved (by plan) GFP – unless) | | |
| 3.4 | Full UID capability for items in operational use achieved | | |
| 3.5 | Full UID capability for items in inventory achieved | | |
| 3.6 | Full UID capability for depot maintenance for items achieved | | |
| 3.7 | AIS – UID integration completed | | |

Figure 1

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# DoD Strategic Imperatives - Part D

- Plans based on evolutionary approach and are to include:
  - Fiscal Year (FY) 2007 target point by which applicable existing serialized assets have been entered in the DoD UID registry and UID marking capability is established so that marking can commence as legacy items are returned for maintenance
  - Programs or items phased out of inventory by Dec 31, 2010, are to be identified as a UID exemption
  - Contract modification, budget , and resource planning
  - May use Virtual UIIs until trigger event for physical 2D marking
- DCMA, with industry partners, to lead development of Single Process Initiatives (SPI) and block changes to expedite UID implementation
  - DCMA has the authority to grant short term extensions on UID implementation if such extensions are consistent with the implementation schedule of a negotiated corporate or facility strategy

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